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## CLAIMS

1. (Currently Amended) A method comprising:  
operating a processor in a normal processing mode;  
receiving data indicative of a cardiac rhythm;  
determining if the cardiac rhythm is benign or non-benign based on a first  
algorithmic set;  
remaining in the normal processing mode if the rhythm is benign  
switching operation of the processor to a guarded processing mode if the  
determined cardiac rhythm is non-benign and executing a second algorithmic set  
including a discriminatory arrhythmia classification algorithm to further classify  
the non-benign rhythm during operation in the guarded processing mode;  
~~switching the operation of the processor from the normal processing mode~~  
~~to operating in a guarded processing mode in response to a non-benign heart~~  
~~rhythm; and~~  
~~executing discriminatory arrhythmia classification algorithms with the~~  
~~processor when the processor is in the guarded processing mode~~  
switching to the normal processing mode when a benign rhythm returns.
2. (Previously presented) The method of claim 1, further comprising  
operating the processor in the normal processing mode without regard to heart  
rate.
3. (Previously presented) The method of claim 1, further comprising  
operating the processor in the guarded processing mode without regard to heart  
rate.
4. (Previously presented) The method of claim 1, wherein operating the  
processor in the guarded processing mode in response to a non-benign heart  
rhythm comprises operating the processor in the guarded processing mode in

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response to evidence of one of atrial fibrillation and atrial flutter with atrioventricular dissociation and R-R interval stability.

5. (Original) The method of claim 4, wherein the evidence of one of atrial fibrillation and atrial flutter is a function of timing of P-waves and R-waves.
6. (Previously presented) The method of claim 1, wherein operating the processor in the guarded processing mode in response to a non-benign heart rhythm comprises operating the processor in the guarded processing mode in response to insufficient evidence of atrial fibrillation and atrial flutter and sinus tachycardia, and in response to sufficient evidence of R-R interval stability.
7. (Original) The method of claim 6, wherein the evidence of atrial fibrillation and atrial flutter and sinus tachycardia is a function of timing of P-waves and R-waves.
8. (Previously presented) The method of claim 1, further comprising operating the processor in the normal processing mode in response to a benign heart rhythm.
9. (Original) The method of claim 8, wherein the benign rhythm comprises at least one of a normal sinus rhythm, sinus tachycardia, atrial fibrillation, atrial flutter, 1:1 supraventricular tachycardia, a paced rhythm, bigeminy and non-sustained ectopy.
10. (Previously presented) The method of claim 1, further comprising maintaining the processor in the normal processing mode in response to a benign heart rhythm.

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11. (Previously presented) The method of claim 1, wherein operating the processor in the guarded processing mode comprises operating the processor in one of a monitoring zone and a therapy zone, wherein operating the processor in the monitoring zone comprises monitoring the rhythm without delivery of therapy to the heart.
12. (Original) The method of claim 1, wherein the processor is included in an implanted cardiac monitoring device.
13. (Original) The method of claim 1, wherein the discriminatory arrhythmia classification algorithms comprise at least one of morphological analysis, operations on timing of P-waves and operations on timing of R-waves.
14. (Currently Amended) A computer-readable medium comprising instructions for causing a programmable processor to:
- operate a processor in a normal processing mode;
  - receive data indicative of a cardiac rhythm;
  - determine if the cardiac rhythm is benign or non-benign based on a first algorithmic set;
  - remain in the normal processing mode if the rhythm is benign
  - switch operation of the processor to a guarded processing mode if the determined cardiac rhythm is non-benign and executing a second algorithmic set including a discriminatory arrhythmia classification algorithm to further classify the non-benign rhythm during operation in the guarded processing mode;
  - switching to the normal processing mode when a benign rhythm returns.
  - ~~operate the processor in a normal processing mode;~~
  - ~~switch the processor to operate in a guarded processing mode in response to a non-benign heart rhythm; and~~
  - ~~execute discriminatory arrhythmia classification algorithms with the processor when the processor is in the guarded processing mode.~~

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15. (Previously presented) The medium of claim 14, the instructions further causing the processor to operate the processor in the normal processing mode without regard to heart rate.

16. (Previously presented) The medium of claim 14, the instructions further causing the processor to operate the processor in the guarded processing mode without regard to heart rate.

17. (Previously presented) The medium of claim 14, wherein operating the processor in the guarded processing mode in response to a non-benign heart rhythm comprises operating the processor in the guarded processing mode in response to evidence of one of atrial fibrillation and atrial flutter with atrioventricular dissociation and R-R interval stability.

18. (Original) The medium of claim 17, wherein the evidence of one of atrial fibrillation and atrial flutter is a function of timing of P-waves and R-waves.

19. (Previously presented) The medium of claim 14, wherein operating the processor in the guarded processing mode in response to a non-benign heart rhythm comprises operating the processor in the guarded processing mode in response to insufficient evidence of atrial fibrillation and atrial flutter and sinus tachycardia, and in response to sufficient evidence of R-R interval stability.

20. (Original) The medium of claim 19, wherein the evidence of atrial fibrillation and atrial flutter and sinus tachycardia is a function of timing of P-waves and R-waves.

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21. (Previously presented) The medium of claim 14, the instructions further causing the processor to operate the processor in the normal processing mode in response to a benign heart rhythm.

22. (Original) The medium of claim 21, wherein the benign rhythm comprises at least one of a normal sinus rhythm, sinus tachycardia, atrial fibrillation, atrial flutter, 1:1 supraventricular tachycardia, a paced rhythm, bigeminy and non-sustained ectopy.

23. (Previously presented) The medium of claim 14, the instructions further causing the processor to maintain the processor in the normal processing mode in response to a benign heart rhythm.

24. (Previously presented) The medium of claim 14, wherein operating the processor in the guarded processing mode comprises operating the processor in one of a monitoring zone and a therapy zone, wherein operating the processor in the monitoring zone comprises monitoring the rhythm without delivery of therapy to the heart.

25. (Original) The medium of claim 14, wherein the processor is included in an implanted cardiac monitoring device.

26. (Original) The medium of claim 14, wherein discriminatory arrhythmia classification algorithms comprise at least one of morphological analysis, operations on timing of P-waves and operations on timing of R-waves.

27. – 55. (Cancelled)